

AMENDMENTS

In the Claims

Please cancel claims 5-8, 25, 27-29, and 33-51 without prejudice. Please amend claims 1-4, 9-24, 26, and 30-32 as shown in the PENDING CLAIMS section that begins with page 3 of this paper. Please add new claims 52-62 as shown in the PENDING CLAIMS section. A marked-up version for the claims being changed by this amendment is attached herewith as separate sheets titled "Version of Claims with Markings to Show Changes Made."

PENDING CLAIMS

1. (Once Amended) A backup server for maintaining a call placed from a call-in user to a data communications network, the network including a local server servicing the call, and a network access server (NAS) for coupling the call to the local server, the NAS having a memory associated therewith, said backup server comprising:

an information packet requester responsive to the local server failure, the information packet requester requesting and receiving from the memory an information packet associated with the call, the information packet containing call information for maintaining connection of the call to the local server; and

a parser for reconstructing the call information from the information packet, whereby the backup server maintains the call to the network.

2. (Once Amended) A backup server according to claim 1 wherein the call information includes server-state attribute (SSA) having an attribute/value pair that can be parsed into a plurality of separate data entries.

3. (Once Amended) A backup server according to claim 1 wherein the information packet further includes a plurality of aggregated data elements from a call attribute table.

4. (Once Amended) A backup server according to claim 3 wherein the plurality of aggregated data elements are separated by said parser for reconstructing the call information from the information packet.

9. (Once Amended) A local server for maintaining a call placed from a call-in user to a data communications network, the network including a backup server and a network access server (NAS) coupling the call to the network, the NAS having a memory associated with the NAS, said local server comprising:

an encoder for generating an information packet associated with the call, the information packet containing call information for maintaining connection of the call to the local server; and

a sender for transmitting the information packet from the encoder to the memory, the information packet being stored in the memory to be available to the backup server if the local server fails.

10. (Once Amended) A local server according to claim 9 wherein the call information includes server-state attribute (SSA) having an attribute/value pair that can be parsed into a plurality of separate data entries.

11. (Once Amended) A local server according to claim 9 wherein the information packet further includes a plurality of aggregated data elements from a call attribute table.

12. (Once Amended) A local server according to claim 11 wherein the plurality of aggregated data elements are separated by said parser for reconstructing the call information from the information packet.

13. (Once Amended) A system for maintaining a call placed by a call-in user to a data communications network, the network including a network access server (NAS) for

coupling the call to the network, a local server servicing the call, a backup server, and a failure detector for detecting a failure of the local server, the system comprising:

a memory associated to the NAS;

an encoder associated with the local server for generating an information packet, wherein the information packet containing call information for maintaining connection of the call to the local server;

a sender for transmitting the information packet from said encoder to said memory associated with the NAS, the information packet being stored in said memory;

a call coupler associated with the NAS for coupling the call to the local server if the local server does not fail, and for coupling the call to the backup server if the local server fails;

an information packet forwarder for transmitting the information packet from said associated memory to the backup server if the local server fails; and

a parser associated with the backup server for reconstructing from the information packet the call information, whereby the backup server can recover the call data and serve the call without disconnecting the user from the network.

14. (Once Amended) A system according to claim 13 wherein said information packet forwarder includes:

an information packet requester associated with the backup server for requesting the information packet from said memory associated with the NAS in response to the call received from the NAS.

15. (Once Amended) A system according to claim 14 wherein said information packet requester requests the information packet from said memory if the call information is not available to the backup server.

16. (Once Amended) A system according to claim 14 wherein said information packet forwarder further includes:

an information packet sender associated with the NAS, for transmitting the information packet in response to a request from said information packet requester.

17. (Once Amended) A network access server (NAS) for maintaining a call placed from a call-in user to a data communications network, the network including a local server for servicing the call, and a backup server capable of servicing the call, said NAS comprising:

a receiver for receiving an information packet from the local server, the information packet containing call information for maintaining connection of the call to the local server;

an associated memory for storing the information packet;

a failure detector for determining if a failure of the local server has occurred;

a call coupler for coupling the call to the local server if the local server does not fail, and for coupling the call to the backup server in response to the failure of the local server; and

a sender for transmitting the information packet from the associated memory to the backup server if the local server failure has occurred.

18. (Once Amended) A NAS according to claim 17 wherein the call information includes server-state attribute (SSA) data having an attribute/value pair that can be parsed into a plurality of separate data entries.

19. (Once Amended) A NAS according to claim 17 wherein the information packet further includes a plurality of aggregated data elements from a call attribute table.

20. (Once Amended) A server backup system for maintaining an ongoing call placed by a call-in user to a network, the network including a server servicing the call, a network access server (NAS) coupling the call from the user to the server, and a memory associated with the NAS, said system comprising:

a backup server connected to the network, said backup server being capable of servicing the call;

an encoder associated with the server, said encoder generating an information packet containing call information for maintaining connection of the call to the local server;

a sender associated with the server, said sender transmitting the information packet to the memory associated with the NAS, the memory storing the information packet;

a call coupler associated with the NAS, said call coupler rolling over the call to said backup server if the server fails;

an information packet requester associated with said backup server, for requesting the information packet from the memory associated with the NAS in response to the call received from the NAS, if the call information is not available to the backup server; and

a parser associated with said backup server, for reconstructing the call information from the information packet.

21. (Once Amended) A server backup system according to claim 20 wherein the call information includes server-state attribute data having an attribute/value pair that can be parsed into a plurality of separate data entries.

22. (Once Amended) A server backup system according to claim 20 wherein the information packet further includes a plurality of aggregated data elements from a call attribute table.

23. (Once Amended) A server backup system according to claim 22 wherein the plurality of aggregated data elements of the information packet are separated by said parser for reconstructing the call information from said information packet.

24. (Once Amended) A server backup system according to claim 20 wherein the server is a resource pool manager server (RPMS).

26. (Once Amended) A server backup system according to claim 20, further comprising:
a failure detector associated with the NAS, for detecting the failure of the server.

30. (Once Amended) A server backup system for maintaining an ongoing call placed by a call-in user to a network, the network and a failure detector connected to the network for determining whether said server access failure has occurred, said memory and said

failure detector both associated with a network access server (NAS) that is connected to said network, said] system comprising:

a first server connected to the network for servicing the call;

a second server connected to the network for servicing the call if the first server fails; and

a network access server (NAS) for coupling the call from the user to said first server, and coupling the call to said second server if the first server fails, said NAS including a memory associated therewith,

wherein said first server including:

an encoder for generating an information packet, the information packet containing call information for maintaining connection of the call to the first server; and

a sender for transmitting the information packet from said encoder to the memory associated with the NAS, the memory storing the information packet, and

wherein said second server including:

an information packet requester for requesting the information packet from the memory in response to the call received from the NAS, if the call information is not available to the second server; and

a parser for reconstructing the call information from said information packet.

31. (Once Amended) A server backup system according to claim 30 wherein said NAS further includes:

a failure detector for detecting the failure of said second server.

32. (Once Amended) A server backup system according to claim 30 wherein said first server is a resource pool manager server (RPMS) and said second server is a backup RPMS.

52. (New) A NAS according to claim 17 wherein said sender transmits the information packet in response to a request from the backup server.

53. (New) A method for maintaining an ongoing call placed by a call-in user to a network, the network including a first server for servicing the call, a network access server (NAS) for coupling the call from the user to the server, a memory associated with the NAS, and a second server capable of servicing the call, said method comprising:

generating, at the first server, an information packet associated with the call, the information packet containing call information for maintaining connection of the call to the local server;

transmitting the information packet from the first server to the memory associated with the NAS, the memory storing the information packet;

coupling the call placed by the user from the NAS to the second server if the first server fails;

transmitting the information packet from the memory associated with the NAS to the second server; and

reconstructing the call information from the information packet at the second server, thereby servicing the call without disconnecting the user from the network.

54. (New) A method according to claim 53, further comprising:
detecting, at the NAS, failure of the first server.
55. (New) A method according to claim 53, further comprising:
issuing, at the second server, a request for the information packet in response to the
call received from the NAS upon the failure of the first server.
56. (New) A method according to claim 55 wherein the information packet is
transmitted from the memory to the second server in response to the request from the
second server.
57. (New) A method according to claim 53 wherein the information packet is
transmitted from the memory to the second server only if the call information is not
available to the second server.
58. (New) A method according to claim 53 wherein the call information includes
server-state attribute data having an attribute/value pair that can be parsed into a plurality
of separate data entries.
59. (New) A method according to claim 58 wherein the information packet further
includes a plurality of aggregated data elements from a call attribute table.

60. (New) A method according to claim 59 wherein the plurality of aggregated data elements of the information packet are separated by said parser from said information packet.

61. (New) A method according to claim 53 wherein the first server is a resource pool manager server (RPMS).

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62. (New) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform a method for method for maintaining an ongoing call placed by a call-in user to a network, the network including a first server for servicing the call, a network access server (NAS) for coupling the call from the user to the server, a memory associated with the NAS, and a second server capable of servicing the call, the method comprising:

generating, at the first server, an information packet for each message in an active call, the information packet containing call information for maintaining connection of the call to the local server;

transmitting the information packet from the first server to the memory associated with the NAS, the memory storing the information packet;

coupling the call placed by the user from the NAS to the second server if the first server fails;

transmitting the information packet from the memory associated with the NAS to the second server, if the call information is not available to the backup server; and

reconstructing the call information from the information packet at the second server, thereby servicing the call without disconnecting the user from the network.